

**REMARKS**

Entry of the foregoing and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 1-9 were pending. By the present response, claims 1, 6 and 9 have been amended, and claim 5 canceled. Thus, upon entry of the present response, claims 1-4 and 6-9 remain pending and await further consideration on the merits.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims.

***CLAIM REJECTIONS UNDER 35 U.S.C. §103***

Claims 1-7 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,785,812 to Linsten et al. (hereafter "*Linsten et al.*") with or without the Admitted Prior Art (specification, page 1, lines 11-14) (hereafter "*Admitted Prior Art*") on the grounds set forth on page 2 of the Official Action. For at least the reasons noted below, this rejection should be withdrawn.

*Linsten et al.* discloses a delignifying and bleaching process, in which pulp is 1) delignified with peracid, 2) treated with a complexing agent, and 3) subsequently bleached with a chlorine-free bleaching agent. (See, Abstract, column 2, lines 4-8, and column 6, lines 31-33). In other words, *Linsten et al.* continues defibration of a pulp with an additional step of peracid delignification. According to *Linsten et al.*, this increases the brightness of the bleached pulp.

In practice such a process as that of *Linsten et al.* would conventionally be used for treating chemical pulps only, though the description generally mentions that the process can be used to treat mechanical pulps, too, see column 5, lines 3-15. However, there is no disclosure of how the process could be used with mechanical pulps. Nor is there any suggestion to use the process in *Linsten et al.* in reverse order when applied to mechanical pulp.

In contrast to *Linsten et al.*, independent claims 1 and 9 apply to a) mechanical pulp that is bleached with a bleaching agent, and b) treating the mechanical pulp with an aliphatic percarboxylic acid in connection or after adding the bleaching agent in order to improve the opacity of the pulp.

The presently claimed methods are unobvious in view of *Linsten et al.* to a person skilled in the art because of several reasons. First, a person skilled in the art would in practice not even have tried to apply the *Linsten et al.* process to mechanical pulps. One advantage of mechanical defibration is to avoid delignification and the material loss necessarily occurred thereby. Therefore, there should be some very specific reasons for purposefully adding a delignification step to a mechanical pulping process as proposed by the modification of the Examiner. *Linsten et al.* does not suggest any specific situation in which such a delignification step would be useful.

Second, *Linsten et al.* teaches to delignify the pulp with peracid and thereafter to bleach the pulp. Delignification is a strong pretreatment and bleaching is conventionally considered a finishing treatment. For example, one purpose of bleaching is to remove dark compounds formed in the delignification. Thus, to a person skilled in the art, the order disclosed in *Linsten et al.* is obligatory. However,

the Examiner proposed modification would result in at least some of the dark compounds formed in delignification remaining. Accordingly, there would be no motivation in trying to carry out these steps in the reverse order, as proposed by the Examiner, since the brightness would be adversely affected (note that *Linsten et al.* is concerned with improving brightness – col. 1, lines 15-16).

Third, *Linsten et al.* does not suggest that the opacity of pulp could be increased by treating the pulp with an aliphatic percarboxylic acid. Thus, if a person skilled in the art would search means for increasing the opacity, he would not find any help from the teaching of *Linsten et al.*

For at least these reasons, the present rejection has not established obviousness because the disclosure in *Linsten et al.* does not disclose the instant process as alleged nor does it provide motivation for the proposed modification. See MPEP §§2142-43.

Moreover, the result of improved opacity, even if *Linsten et al.* were to be modified, it is not inherent to the *Linsten et al.* modified process, as alleged by the Examiner on page 2 of the Official Action. It is of course generally true that when the brightness is increased the opacity is decreased. However, the Examiner's conclusion that *Linsten et al.* would teach that only high amounts of peracetic acid would increase the brightness and that small amounts would even decrease it (see p. 3 of the Official Action) is not grounded in the disclosure of *Linsten et al.* *Linsten et al.* does not suggest such a behavior of brightness. Nor does Applicants' specification at page 1, lines 11-14 admit such effect.

On the other hand, the effect of peracetic acid in the teaching of *Linsten et al.* is definitely bound to the chlorine-free bleaching step following the peracid addition,

see e.g., column 1, lines 12-14. On the basis of the *Linsten et al.* reference with or without the alleged admitted prior art, one cannot with certainty tell what would be the effect of peracid treatment in the amounts disclosed in the *Linsten et al.* process if added in connection or after the bleaching as proposed in the Examiner's modification. Thus, at best the Examiner has relied upon an "obvious to try" rationale to support the rejection.

For at least these further reasons, the rejections should be withdrawn.

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Linsten et al.* as applied to claim 1 above, and further in view of U.S. Patent No. 5,693,185 to Chang et al. ("hereafter "*Chang et al.*") on the grounds set forth on page 3 of the Official Action. For at least the reasons noted below, this rejection should be withdrawn.

Claim 8 depends from claim 1 and is distinguishable over the disclosure in *Linsten et al.* with or without the alleged admitted prior art for at least the same reasons as discussed above. Further, the disclosure in *Chang et al.* is relied upon merely for proposition that peracetic acid can be formed in situ as noted. Thus, the disclosure in *Chang et al.* does not contribute to overcome the deficiencies noted in the primary reference. For at least this reason, the rejection of claim 8 should be withdrawn.

## **CONCLUSION**

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it

is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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